

Work Order ID 85938

85938

Page 1

June-19-12 7:59:05 AM

Item ID: D350-636-012

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Skidtube RH

Stop *NS2*

Start Date: 19/06/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 03/07/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: ML5 Date: 12/06/19 Tooling:

Date:

Run Start *NR1*

QC: Date: SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
----------	--------------

D2750	F
-------	---

D3492	C
-------	---

ASP

100

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy blue file and type labels per PPP D350-636-012 CHG 006

DAS
16
9-89

17/14/27

ML5 12-7-26

85938

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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SPC (Y/N):

Date:

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110

110

Skidtubes

Skidtubes

Skidtubes

Memo

0.00

1- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D2750

3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr.

4- Locate DT8329 off of blade fitting bolt holes and drill pilot holes for blade fitting

5- Drill only two fwd step holes using DT9616. Ensure proper positioning.

6- Drill pilot holes as per Dwg D2750 sheet 4 (D2750-2 details). Drill using drill Jig DT8150 & DT8863A for first side only DT8863B for second side (detail K)

7- Clecko DT8863B on second side of tube and drill pilot holes for detail B.
SECOND SIDE

8-Open up holes for Detail "K" to 0.375" (4 holes per side) and blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D2750. Open up holes for ground handling and detail L to 0.500" (8 holes per side)

9-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297".

10-Open up holes of Detail A to 0.297" (total of 2 holes per side)

BB 12/07/11

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Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
	11-Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left from bending as per QSI 004 A/R Aluminum Rod batch: <u>M122130</u> <u>BE 12/07/17</u>								
	12-Grind welds flush as per Dwg D2750 <u>BB 12/07/17</u>								
120 *120* QC Quality Control	QC10- Inspect visual per QSI004- ground welds Memo	0.00							
		0.00	<u>DAS 16 12/07/17</u>						
130 *130* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00							
		0.00	<u>DAS 16 12/07/17</u>						

Dart Aerospace Ltd

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Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

140

Chemical Conversion Coat per QSI005 4.1

0.00

140

HandFinish

Memo

0.00

Hand Finishing

1 26 12-7-18

150

QC7-Inspect Chemical Conversion Coat

0.00

150

QC

Memo

0.00

Quality Control

03

DP 12-7-18

Dart Aerospace Ltd

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Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Skidtubes	0.00							
160									
Skidtubes	Memo	0.00							
Skidtubes	1-Open up holes of Detail L and ground handling to 0.625" (total of 8 holes per side) as per dwg D2750.								
	2-Open up holes of Detail K to 0.750" (total of 4 holes per side) as per dwg D2750.								
	3-Open float holes to .500" (4 per Side)								
	4-Chamfer holes of Detail K, L, ground handling and float holes per dwg D2750 (welding instructions on sheet 9)								
	5-Deburr and blow out all chips from inside of tube								
	6-Prepare tube for welding, remove alodine as required.								
	7-Bond web D2739 in place as per QSI 015 A/R Sikaflex-291 batch: <u>122130</u> exp. date: <u>13-3-14</u> - Dec 12/07/18								
	8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D2750 & QSI004 (welding instructions on sheet 9) A/R Aluminum Rod batch: <u>M122130</u> <u>30 Dec 12/07/23</u>								
	9- At section AP-AP drill out x-bolt spacer to 0.404"								
	10-Grind welds flush as per Dwg D2750 <u>SAD 12-07-23</u>								
	11-Spot face ground handling holes section (total of 4 places per side) as per <u>BB 12/07/23</u>								

Dec 12/07/18

Dec 12/07/18

30 Dec 12/07/23

SAD 12-07-23

BB

12/07/23

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1

Customer:

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Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

dwg D2750

12-Deburr holes

JB 12/07/23

170

QC10- Inspect visual per QSI004- ground welds

0.00

170

QC

Memo

0.00

Quality Control

DAS 16
12/14/24

180

QC5- Inspect part completeness to step on W/O

0.00

180

QC

Memo

0.00

Quality Control

DAS 16
12/14/24

W/O:		WORK ORDER CHANGES					
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Run Start *NR1*

QC: _____ Date: _____

SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	Pressure Wash per QSI005 4.3	0.00							
190									
HandFinish	Memo	0.00							
Hand Finishing	Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.								
200	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
200									
Powdercoat	Memo	0.00							
Powder Coating	START TIME: 8:30 OVEN TEMPERATURE: 320 OF FINISH TIME: 9:00								
210	QC3- Inspect Part Finish	0.00							
210									
QC	Memo	0.00							
Quality Control	Inspect for foreign object per QSI 024								

1 76 12-7-25

IX 12/07/25

184 12/07/25

MI 21841

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Customer:

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Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

230

0.00

230

HandFinishing

HandFinish

Memo

0.00

Hand Finishing

1-Install inserts as per dwg D2750

2-Inspect for Foreign Objects

3-Spray inside of tube with "LPS-3"
batch: N/A

4-Install blade fitting D3488-042, wearshoes and ground handling hardware as
per dwg D2750

SIKA FLEX 241

BATCH: 122130

EXP DATE: 14/07

5-assemble o-ring to plug as per dwg D3492 and apply o-ring lube
A/R 55-o-ring lube batch: 110348

6-Coat all exposed fasteners with "LPS Procyon"
batch: 114546

1 RA & (SP) 12/07/25

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240	QC5- Inspect part completeness to step on W/O	0.00							
240									
QC	Memo	0.00							
Quality Control									
250	Pick Kit	0.00							
250									
Packaging	Memo	0.00							
Packaging									
260	QC4- 100% Inspect kits for completeness	0.00							
260									
QC	Memo	0.00							
Quality Control									

DAS
16
9-89 17/07/26

1x 12-7-26

DAS
16
9-89 17/07/27

Dart Aerospace Ltd

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Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270		0.00							
270	Packaging								
Packaging	Memo	0.00							
Packaging	Package as per PPP D350-636-012								
	<i>NSI</i>								
280		0.00							
280	QC21- Final Inspection - Work Order Release								
QC	Memo	0.00							
Quality Control									

12/17/2012

12/17/2012

MS 12/07/27

Dart Aerospace Ltd

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Picklist Print

June-19-12 7:59:09 AM

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Parent Item: D350-636-012

D350-636-012

Parent Item Name: Skidtube RH

Start Date: 19/06/2012

Required Date: 03/07/2012

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev:102.09.25Rearranged procedure stepsKJ
 IPP Rev:J 06-03-29 As per Rev D EC
 IPP Rev:K 06-07.13 As per dsi9343 EC
 IPP Rev:L 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
 IPP Rev:M 08-04-22 update steps 4.13 DD verified by:EC
 IPP Rev:N 08-09-23 revF as per dwg DD verified by:ec IPP Rev:O
 10.06.22 revise seq110 DD verf:EC IPP Rev:P 10.10.01 as
 per IIN revH DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2600-3-BENT

Manufactured No

110

Each

23.0000

1

1

D2600-3-BENT

Extrusion Bent

**

1 BE 12/07/11

Location

LG

86330

Loc Qty

23

Loc Code

66875

7

73253

1

75021

1

75022

1

75023

1

81330

4

83305

1

83442

7

D2744

Manufactured No

110

Each

68.0000

1

1

D2744

Cap

**

BE 12/07/17

Location

LG002

Loc Qty

68

Loc Code

62715

1

83412

29

85506

38

Dart Aerospace Ltd

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D350-636-012

Parent Item Name: Skidtube RH

Start Date: 19/06/2012

Required Date: 03/07/2012

Start Qty: 1.00

Required Qty: 1.00

D2739

Manufactured No

160

Each

11.0000

1

1

D2739

3501 Beam

**

DC 12/07/18

Location

B86437

Loc Qty

Loc Code

LG

11

72155

1

81508

1

83447

3

83448

4

83548

2

①

D2743

Manufactured No

160

Each

256.0000

8

8

D2743

Crossbolt Spacer

**

3E12/07/23
B85459 v8

Location

Loc Qty

Loc Code

LG

182

81965

55

83262

127

LG001

74

67766

4

68251

3

73403

64

74445

1

79517

2

D3490-3

Manufactured No

160

Each

102.0000

4

4

D3490-3

Cross Bolt Spacer

**

3E12/07/23

Location

Loc Qty

Loc Code

LG001

102

83313

42

85420

60

4

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Shop Packet Print

Page 2

Dart Aerospace Ltd

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D350-636-012

Parent Item Name: Skidtube RH

Start Date: 19/06/2012

Required Date: 03/07/2012

Start Qty: 1.00

Required Qty: 1.00

D3490-1

Manufactured No

160

Each

111 0000

4

4

D3490-1

Cross Bolt Spacer

**

BE12/07/23

Location

Loc Qty

Loc Code

LG	88	
81976	2	
85419	86	
LG001	23	
62450	2	
74875	4	
77042	3	
83269	14	

4

D3631-1

Manufactured No

230

Each

331.0000

8

8

D3631-1

Washer

**

8 OP 12/07/25

Location

Loc Qty

Loc Code

FG	316	
81874	2	
83588✓	314	
ST072	15	
68062	2	
75548	13	

D3791-1

Manufactured No

230

Each

29.0000

1

1

D3791-1

Wearplate

**

1 OP 12/07/25

Location

Loc Qty

Loc Code

FP002	29	
62239	2	
83392	15	
83902✓	12	

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Work Order ID: 85938

Parent Item: D350-636-012

Parent Item Name: Skidtube RH

85938

D350-636-012

Start Date: 19/06/2012

Required Date: 03/07/2012

Start Qty: 1.00

Required Qty: 1.00

D3793-3

Manufactured No

230

Each

28.0000

1

1

D3793-3

Wearshoe

**

1

SP

12/07/25

Location

Loc Qty

Loc Code

FP001

28

83394 ✓

16

83901

12

MS21043-6

Purchased No

230

Each

610.0000

4

4

MS21043-6

NUT

**

4

SP

12/07/25

Location

Loc Qty

Loc Code

FG

20

103693

20

ST301

590

117887

2

118384 ✓

88

120308

500

D3794-1

Manufactured No

230

Each

26.0000

1

1

D3794-1

Gasket

**

1

SP

12/07/25

Location

Loc Qty

Loc Code

FP

6

82167

6

FP002

20

83395 ✓

20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Work Order ID: 85938

Parent Item: D350-636-012

Parent Item Name: Skidtube RH

85938

D350-636-012

Start Date: 19/06/2012

Required Date: 03/07/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1611-010

Purchased

No

230

Each

164.0000

8

8

**

8 12/07/25

NAS1611-010

O-RING

Location

Loc Qty

Loc Code

FP001

12151 ✓

164

110915

14

117460

8

118077

1

118612

3

119438

47

121259

2

121584

39

121723

50

D2741

Manufactured

No

250

Each

47.0000

1

1

**

SP 12-7-26

D2741

Blade, 350 Skidtube

Location

Loc Qty

Loc Code

ST

-10

ST466

57

71856

1

79516

7

83135

39

1x

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Work Order ID: 85938

Parent Item: D350-636-012

Parent Item Name: Skidtube RH

85938

D350-636-012

Start Date: 19/06/2012

Required Date: 03/07/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1515H3L

Purchased

No

230

Each

138.0000

4

4

**

4

(SP)

12/07/25

***NAS1515H3I ***

WASHER

Location

Loc Qty

Loc Code

FG

12251 ✓

40

102472

40

ST277

98

118686

3

119438

1

120360

11

121243

2

121556

81

NAS1611-013

Purchased

No

230

Each

341.0000

8

8

**

8

(SP)

12/07/25

NAS1611-013

O-RING

Location

Loc Qty

Loc Code

FP001

341

116582

5

117291

2

117887

53

119623

36

121584

15

121825 ✓

188

121826

42

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Work Order ID: 85938

85938

Parent Item: D350-636-012

D350-636-012

Parent Item Name: Skidtube RH

Start Date: 19/06/2012

Required Date: 03/07/2012

Start Qty: 1.00

Required Qty: 1.00

AN3C6A

Purchased

No

230

Each

359.0000

4

4

AN3C6A

BOLT

**

4

SP

12/07/25

Location

Loc Qty

Loc Code

FP001

1

111982

1

ST351

358

111982

2

116419

23

116549

2

116704

12

117619

10

117688

1

117872

5

118422

13

119449

21

120423

3

120693

126

121682 ✓

140

NAS1149C0832R

Purchased

No

230

Each

256.0000

1

1

NAS1149C0832R

WASHER

**

1

SP

12/07/25

Location

Loc Qty

Loc Code

ST297

256

114915 ✓

256

D3536-25

Manufactured

No

230

Each

28.0000

1

1

D3536-25

Gasket

**

1

SP

12/07/25

Location

Loc Qty

Loc Code

FP

28

83391

12

83900 ✓

16

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Shop Packet Print

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Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Work Order ID: 85938

85938

Parent Item: D350-636-012

D350-636-012

Parent Item Name: Skidtube RH

Start Date: 19/06/2012

Required Date: 03/07/2012

Start Qty: 1.00

Required Qty: 1.00

D3794-3

Manufactured No

230

Each

23.0000

1

1

D3794-3

Gasket

**

1

SP

12/07/25

Location

Loc Qty

Loc Code

FP

21

83396 ✓

21

FP002

2

74530

2

AN3C5A

Purchased

No

230

Each

1,228.000

34

34

AN3C5A

Bolt

**

34

SP

12/07/25

Location

Loc Qty

Loc Code

FP001

7

122141 ✓

7

115835

ST350

1221

116419

28

117343

13

117764

7

117872

2

119749

23

120423

28

121068

12

121255

500

121444

108

121708

500

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Work Order ID: 85938

Parent Item: D350-636-012

Parent Item Name: Skidtube RH

85938

D350-636-012

Start Date: 19/06/2012

Required Date: 03/07/2012

Start Qty: 1.00

Required Qty: 1.00

D3537-1

Manufactured No

230

Each

65.0000

3

3

D3537-1

Wearpad

**

3 2P 12/07/25

Location

Loc Qty

Loc Code

FP002

85457✓

65

81362

6

83254

1

83255

3

83256

49

84091

6

D3535-25

Manufactured No

230

Each

34.0000

1

1

D3535-25

Wearshoe

**

1 2P 12/07/25

Location

Loc Qty

Loc Code

FP001

34

62233

1

81357

1

82156

2

83387

17

83899✓

13

D3492-3

Manufactured No

230

Each

163.0000

8

8

D3492-3

Plug

**

8 2P 12/07/25

Location

Loc Qty

Loc Code

FP-A

85461✓

163

81967

5

83099

36

83529

122

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Work Order ID: 85938

85938

Parent Item: D350-636-012

D350-636-012

Parent Item Name: Skidtube RH

Start Date: 19/06/2012

Required Date: 03/07/2012

Start Qty: 1.00

Required Qty: 1.00

AN960C10L

~~*~~ NAS1149C0332 ✓
R

Purchased

No

122063 ✓

230

Each

21.0000

38

38

***AN960C10I ***

washer

**

38

(2P)

12/07/25

Location

Loc Qty

Loc Code

ST

21

107534

21

D3488-042

Manufactured

No

230

Each

0.0000

1

1

D3488-042

Blade Fitting Assembly, RH

~~*~~ ~~*~~

83417 ✓

**

1

(2P)

12/07/25

ALS4-1032-225

Purchased

No

230

Each

663.0000

38

38

AI S4-1032-225

Insert

**

38

(2P)

12/07/25

Location

Loc Qty

Loc Code

ST281

122240 ✓

640

108696

146

110768

62

118386

55

118966

68

121269

309

ST282

23

120410

10

120451

13

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Work Order ID: 85938

Parent Item: D350-636-012

Parent Item Name: Skidtube RH

85938

D350-636-012

Start Date: 19/06/2012

Required Date: 03/07/2012

Start Qty: 1.00

Required Qty: 1.00

D3492-1

Manufactured No

230

Each

253.0000

8

8

D3492-1

Plug

**

8

(2P)

12/07/25

Location

Loc Qty

Loc Code

FP002

238

69531

8

74444

2

76235

4

83259 ✓

224

FP-A

15

83098

15

D3793-1

Manufactured No

230

Each

28.0000

1

1

D3793-1

Wearshoe

**

1

(2P)

12/07/25

Location

Loc Qty

Loc Code

FP001

28

82171

2

83393

13

83903 ✓

13

AN8C35A

Purchased No

230

Each

66.0000

1

1

AN8C35A

BOLT

**

1

(2P)

12/07/25

Location

Loc Qty

Loc Code

FP002

65

115960

1

118286

14

121275 ✓

50

ST346

1

114442

0

115188

0

115960

1

June-19-12 7:59:10 AM

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 12

Work Order ID: 85938

Parent Item: D350-636-012

Parent Item Name: Skidtube RH

85938

D350-636-012

Start Date: 19/06/2012

Required Date: 03/07/2012

Start Qty: 1.00

Required Qty: 1.00

MS21083C8

Purchased

No

230

Each

67.0000

1

1

MS21083C8

NUT

**

1 (SP) 12/07/25

Location

Loc Qty

Loc Code

304

62

121185 ✓

27

121349

35

FP002

1

115884

1

ST303

4

115884

0

118077

1

119309

2

119638

1

D2745

Manufactured

No

230

Each

306.0000

8

8

D2745

Bushing

**

8 (SP) 12/07/25

Location

Loc Qty

Loc Code

FP

206

79518

6

85416 ✓

200

FP001

100

69529

1

76142

1

83260

98

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 13

Work Order ID: 85938

85938

Parent Item: D350-636-012

D350-636-012

Parent Item Name: Skidtube RH

Start Date: 19/06/2012

Required Date: 03/07/2012

Start Qty: 1.00

Required Qty: 1.00

AN6C44A

Purchased

No

230

Each

78.0000

4

4

AN6C44A

BOLT

**

4

(20)

12/07/25

Location

Loc Qty

Loc Code

FG

12204✓

2

103964

2

ST343

76

121013

11

121167

8

121440

50

121689

7

D3532-1

Manufactured

No

250

Each

30.0000

2

2

D3532-1

Spacer

**

SP

Location

Loc Qty

Loc Code

ST053

30

82041

5

83319

25

MS21083C8

Purchased

No

250

Each

67.0000

2

2

MS21083C8

NUT

**

M122141 SP

127-26

Location

Loc Qty

Loc Code

304

62

121185

27

121349

35

FP002

1

115884

1

ST303

4

115884

0

118077

1

119309

2

119638

1

June-19-12 7:59:11 AM

Shop Packet Print

Page 13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 14

Work Order ID: 85938

85938

Parent Item: D350-636-012

D350-636-012

Parent Item Name: Skidtube RH

Start Date: 19/06/2012

Required Date: 03/07/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1149D0863J

Purchased

No

250

Each

239.0000

2

2

NAS1149D0863.J
WASHER

**

SP

L

Location

Loc Qty

Loc Code

ST298

239

118078

34

119307

5

120308

100

121556

100

2x

D3493-1

Manufactured

No

250

Each

115.0000

2

2

D3493-1
Washer

**

SP

L

Location

Loc Qty

Loc Code

ST050

115

77573

1

82023

14

83097

100

2x

AN8C21A

Purchased

No

250

Each

45.0000

2

2

AN8C21A
BOLT

**

SP

L

Location

Loc Qty

Loc Code

ST343

45

118758

3

121275

42

2x

12-7-26.
m122204

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- 1) MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- 2) FINISH:
ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- 8) WELD PER DART QSI 004
- 9) INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- 10) FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- 11) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.
- 12) SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- 13) SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

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WITHOUT NOTICE
WORK ORDER

NO. 85938 MLJ
12/06/19

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F	INCORPORATE DSI 9413, QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/-3 REPLACES D3535-13/-35 (ZN C8-1); D3794-1/-3 REPLACES D3536-13/-35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A8-1); REASON REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS, CHANGE INSERTS; ADD D3631-1, REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H8L; REMOVE D2741, QTY (2) AN960C816, REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEO 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4, INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	99.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	08.07.16		

DART AEROSPACE USA, INC.
PORT HADLOCK, WA

DRAWING NO. **D2750** REV. F
SHEET 1 OF 11
TITLE **350 SKIDTUBE ASSEMBLY** SCALE NTS

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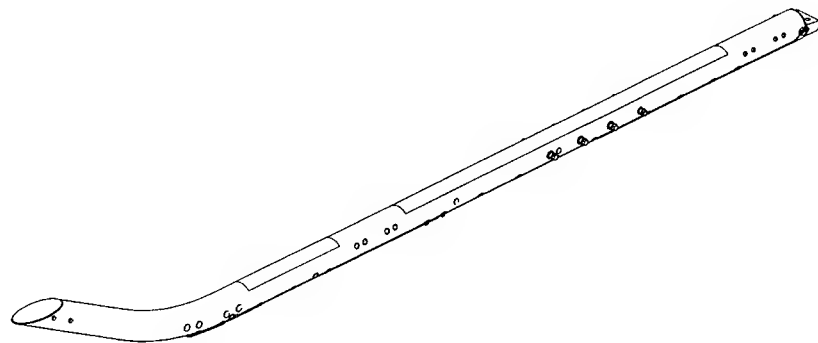
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

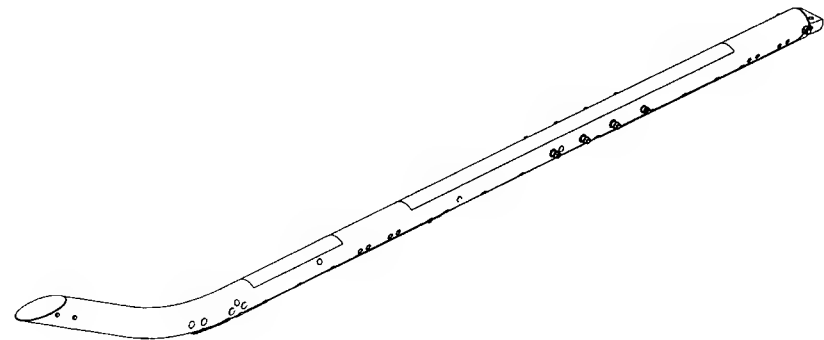
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

95938



D2750-041 350 SKIDTUBE ASSEMBLY, LH



D2750-042 350 SKIDTUBE ASSEMBLY, RH

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15 JUL 1994

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MFG. APPR.	PA	D2750	SHEET 2 OF 11
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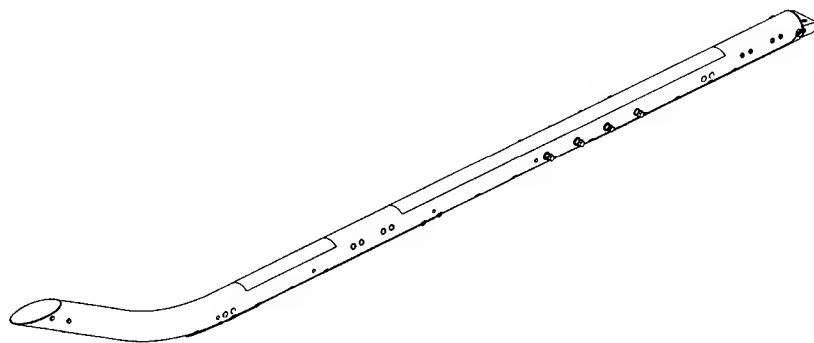
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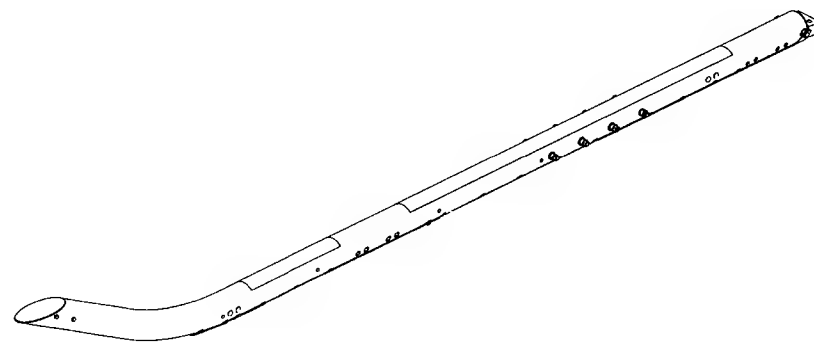
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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85938



D2750-043 350 SKIDTUBE ASSEMBLY, LH



D2750-044 350 SKIDTUBE ASSEMBLY, RH

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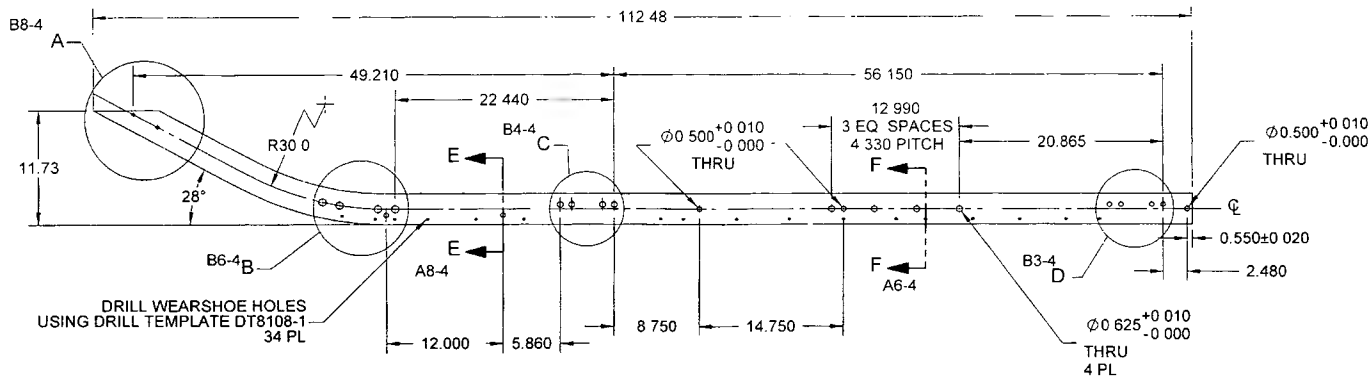
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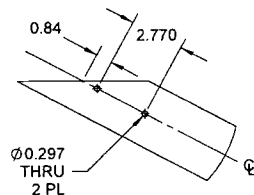
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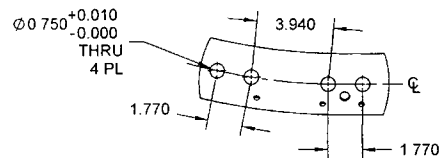
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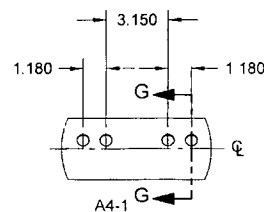
D2750-1 LH SKIDTUBE



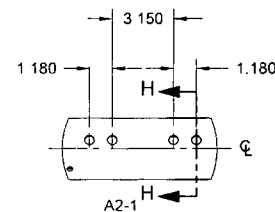
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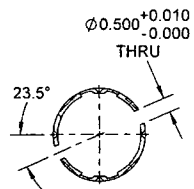
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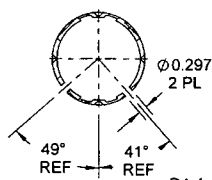
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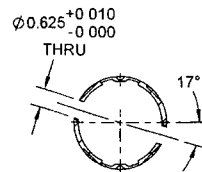
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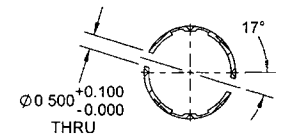
SECTION E-E
SCALE 3X, 2 PL



SECTION F-F
SCALE 3X, 17 PL



SECTION G-G
SCALE 3X, 4 PL



SECTION H-H
SCALE 3X, 4 PL

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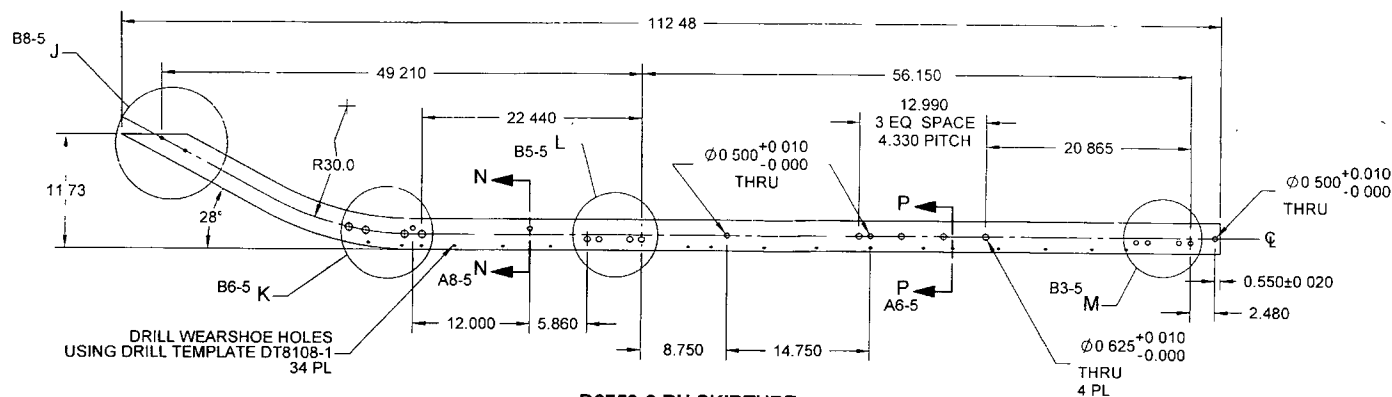
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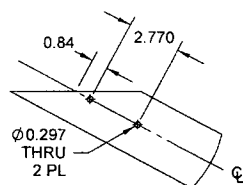
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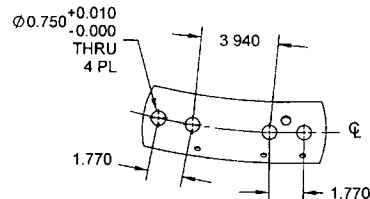
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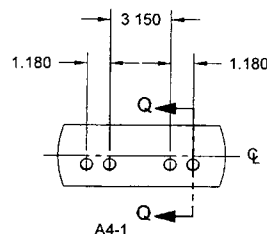
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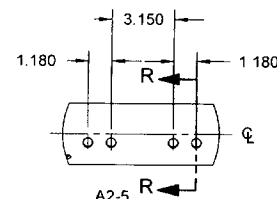
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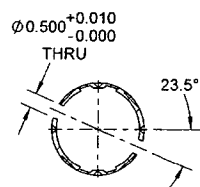
C7-5



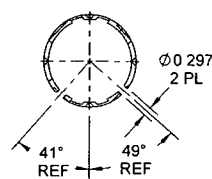
D6-5



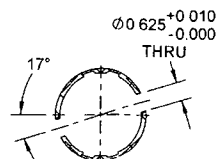
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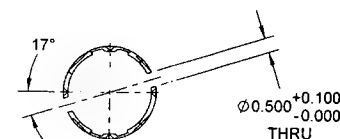
C6-5



C4-5



B5-5



B3-5

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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

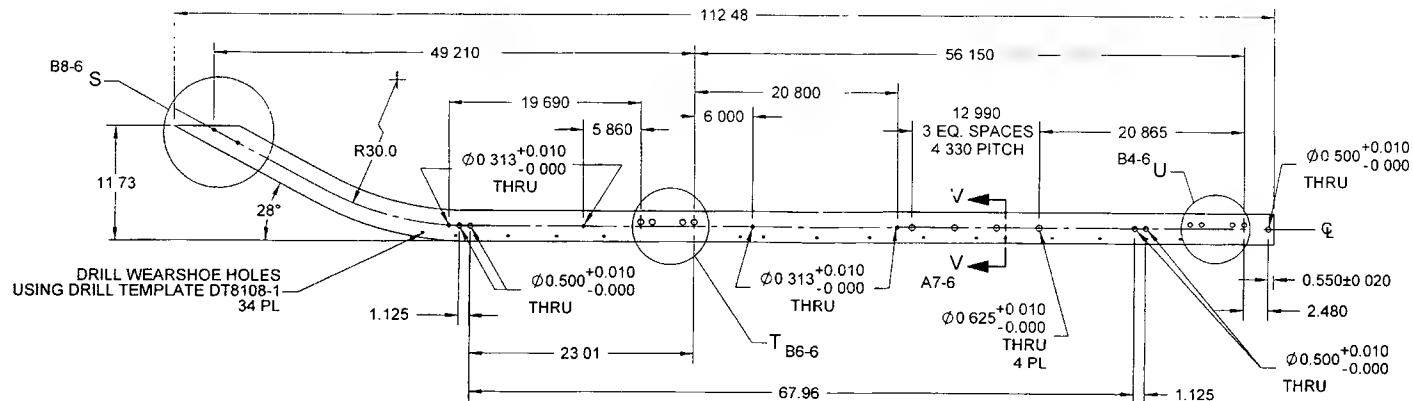
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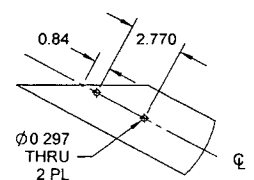
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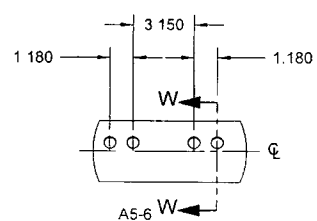
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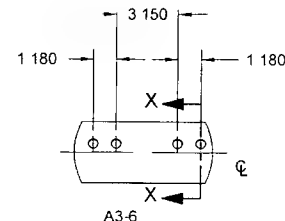
D2750-3 LH SKIDTUBE



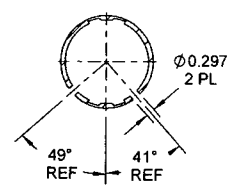
DETAIL S
SCALE 2X



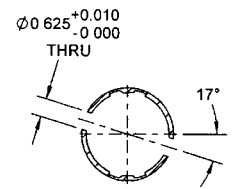
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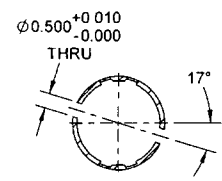
DETAIL U
SCALE 2X



SECTION V-V
SCALE 3X, 17 PL



SECTION W-W
SCALE 3X, 4 PL



SECTION X-X
SCALE 3X, 4 PL

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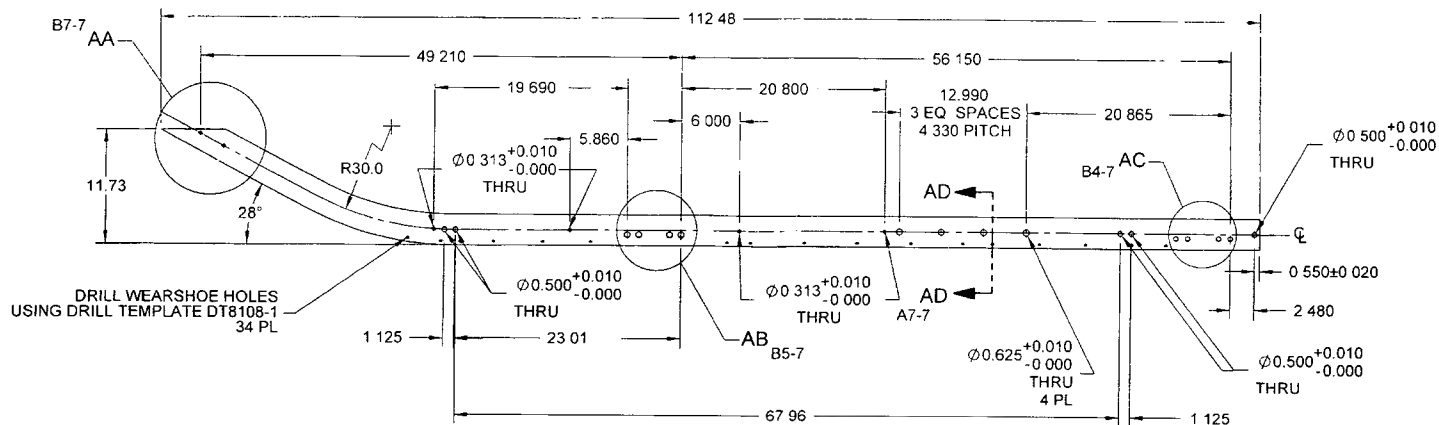
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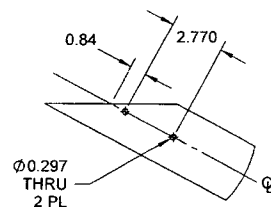
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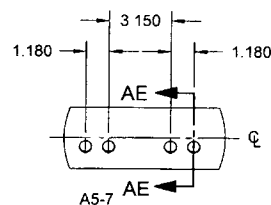
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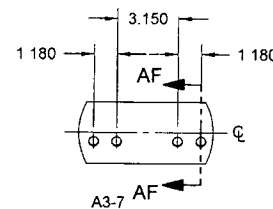
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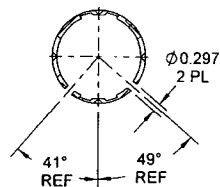
DETAIL AA
D7-7
SCALE 2X



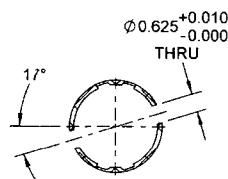
DETAIL AB
C4-7
SCALE 2X



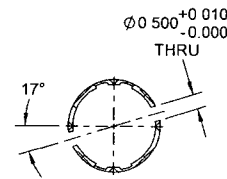
DETAIL AC
D3-7
SCALE 2X



SECTION AD-AD
B3-7
SCALE 3X, 17 PL



SECTION AE-AE
B6-7
SCALE 3X, 4 PL



SECTION AF-AF
B4-7
SCALE 3X, 4 PL

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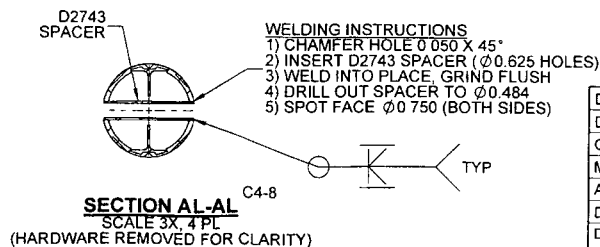
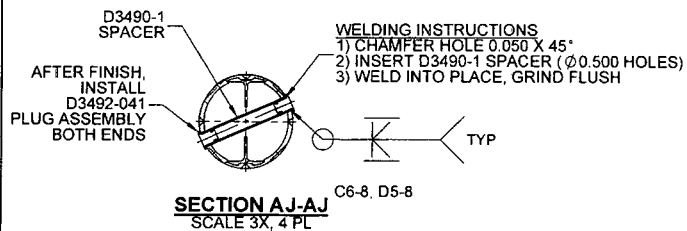
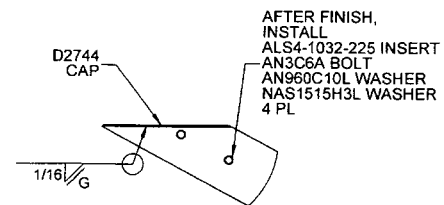
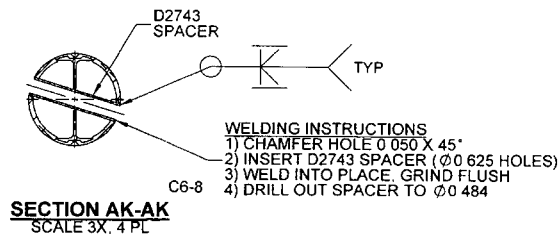
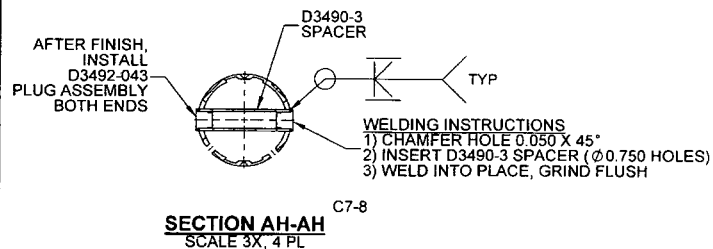
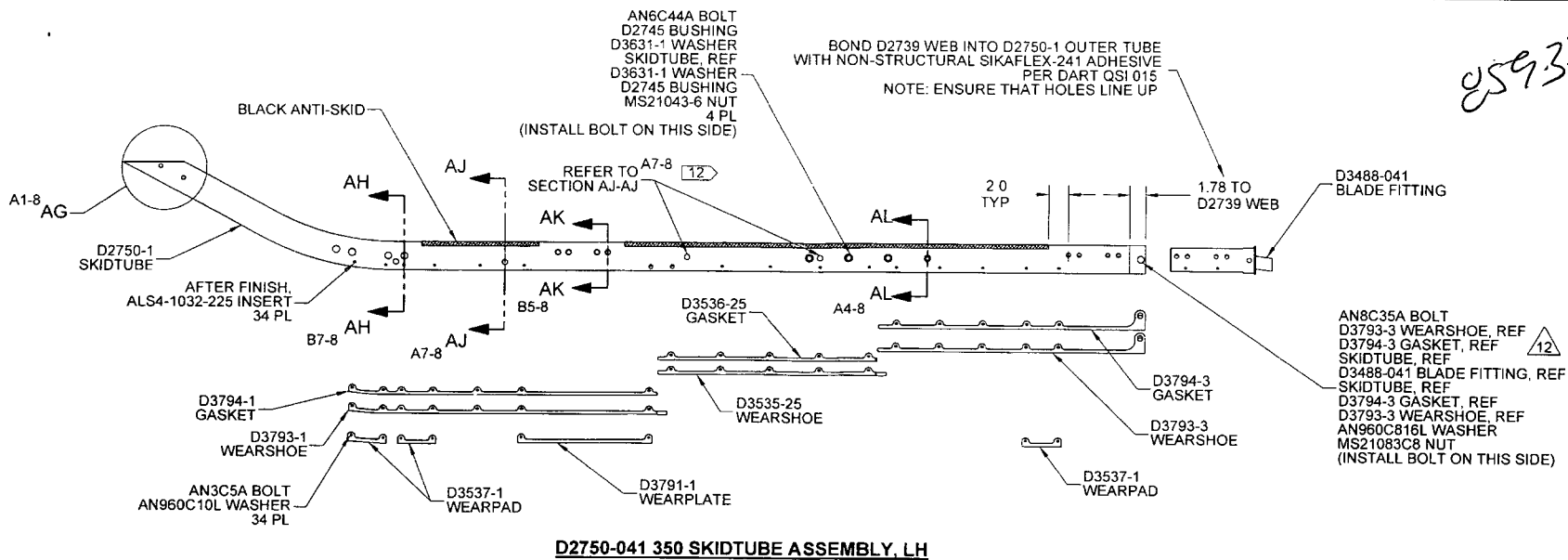
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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DETAIL AG
SCALE 2X
D8-8
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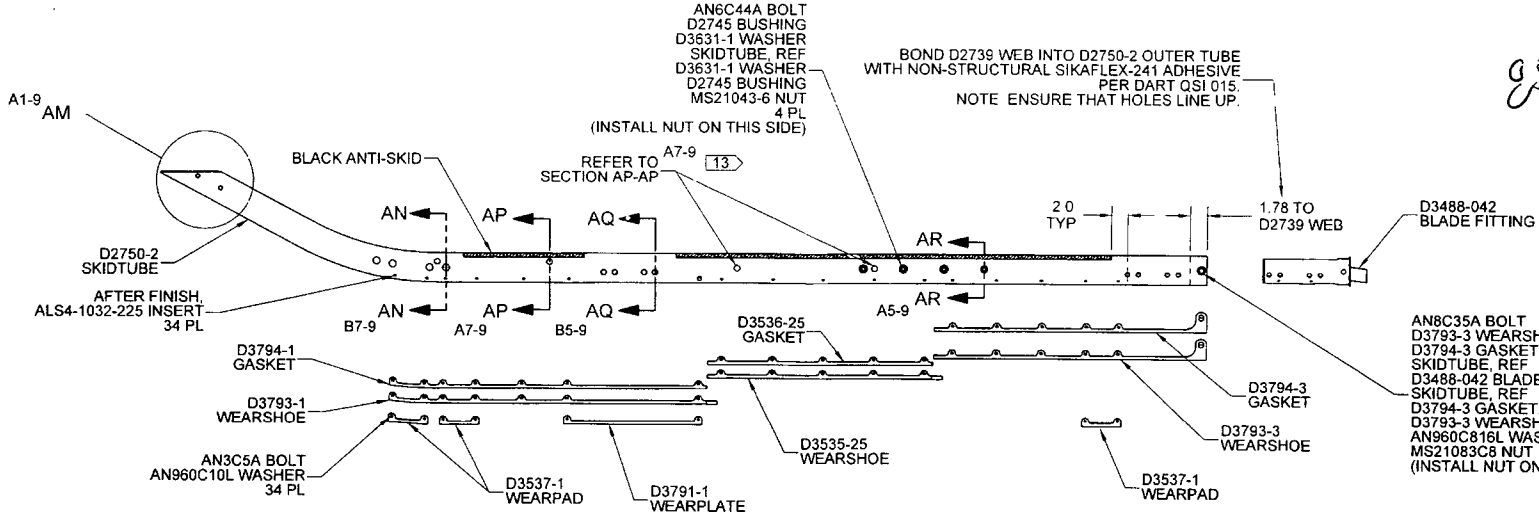
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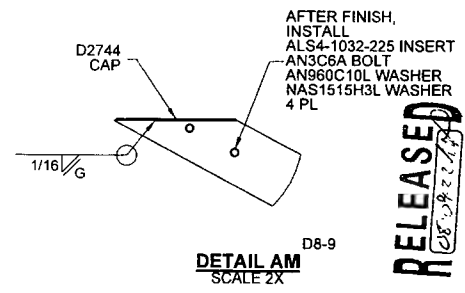
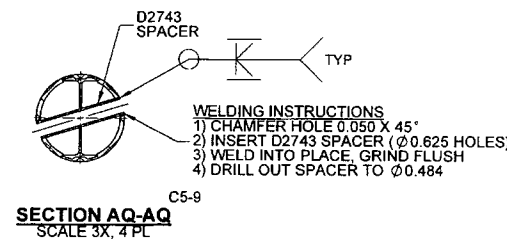
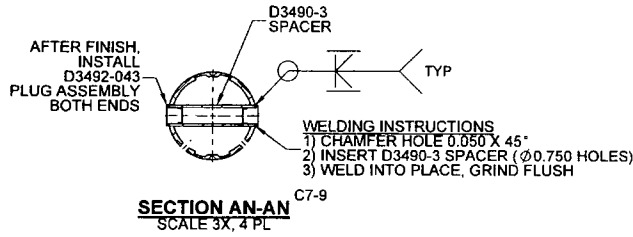
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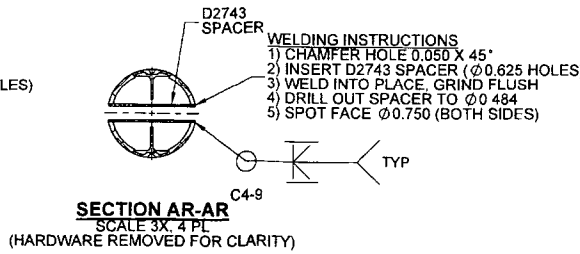
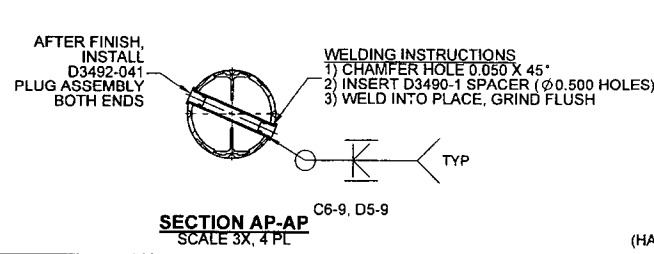
05939



D2750-042 350 SKIDTUBE ASSEMBLY, RH



RELEASED



DESIGN	PH	DART AEROSPACE USA, INC. PORT HADLOCK, WA	REV. F SHEET 9 OF 11 SCALE NTS
DRAWN	PH		
CHECKED	PH		
MFG. APPR.	PH		
APPROVED	PH		
DE APPR.	PH	DRAWING NO. D2750	TITLE 350 SKIDTUBE ASSEMBLY
DATE 08.07.16		COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

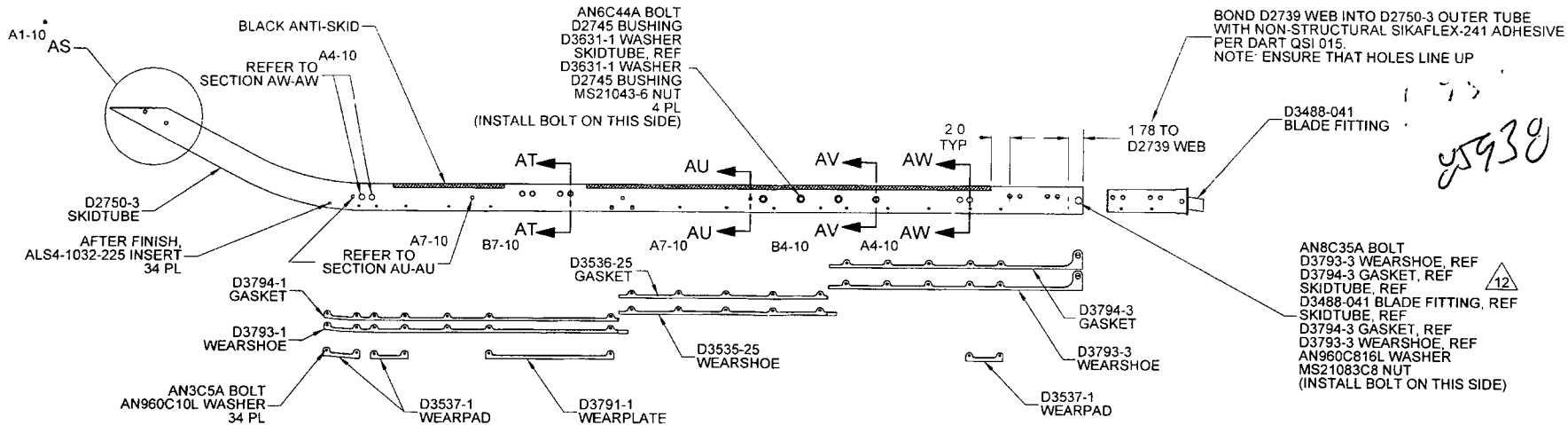
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

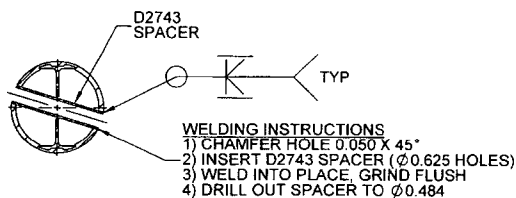
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

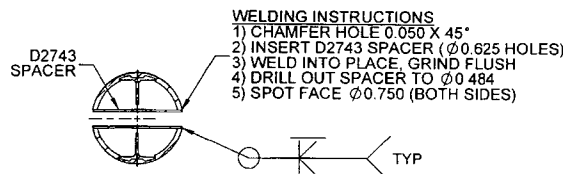
NOTE: Date & initial all entries



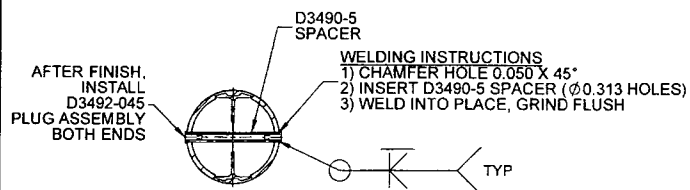
D2750-043 350 SKIDTUBE ASSEMBLY, LH



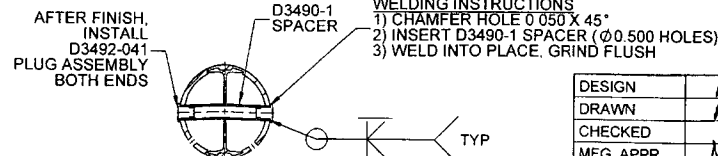
SECTION AT-AT SCALE 3X, 4 PL



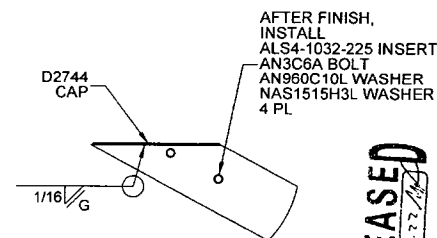
SECTION AV-AV SCALE 3X, 4 PL (HARDWARE REMOVED FOR CLARITY)



SECTION AU-AU SCALE 3X, 4 PL



SECTION AW-AW SCALE 3X, 4 PL



DETAIL AS SCALE 2X

DESIGN	AS	DART AEROSPACE USA, INC.	
DRAWN	AS	PORT HADLOCK, WA	
CHECKED		DRAWING NO	REV. F
MFG APPR.	AS	D2750	SHEET 10 OF 11
APPROVED		TITLE	SCALE
DE APPR.	AS	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

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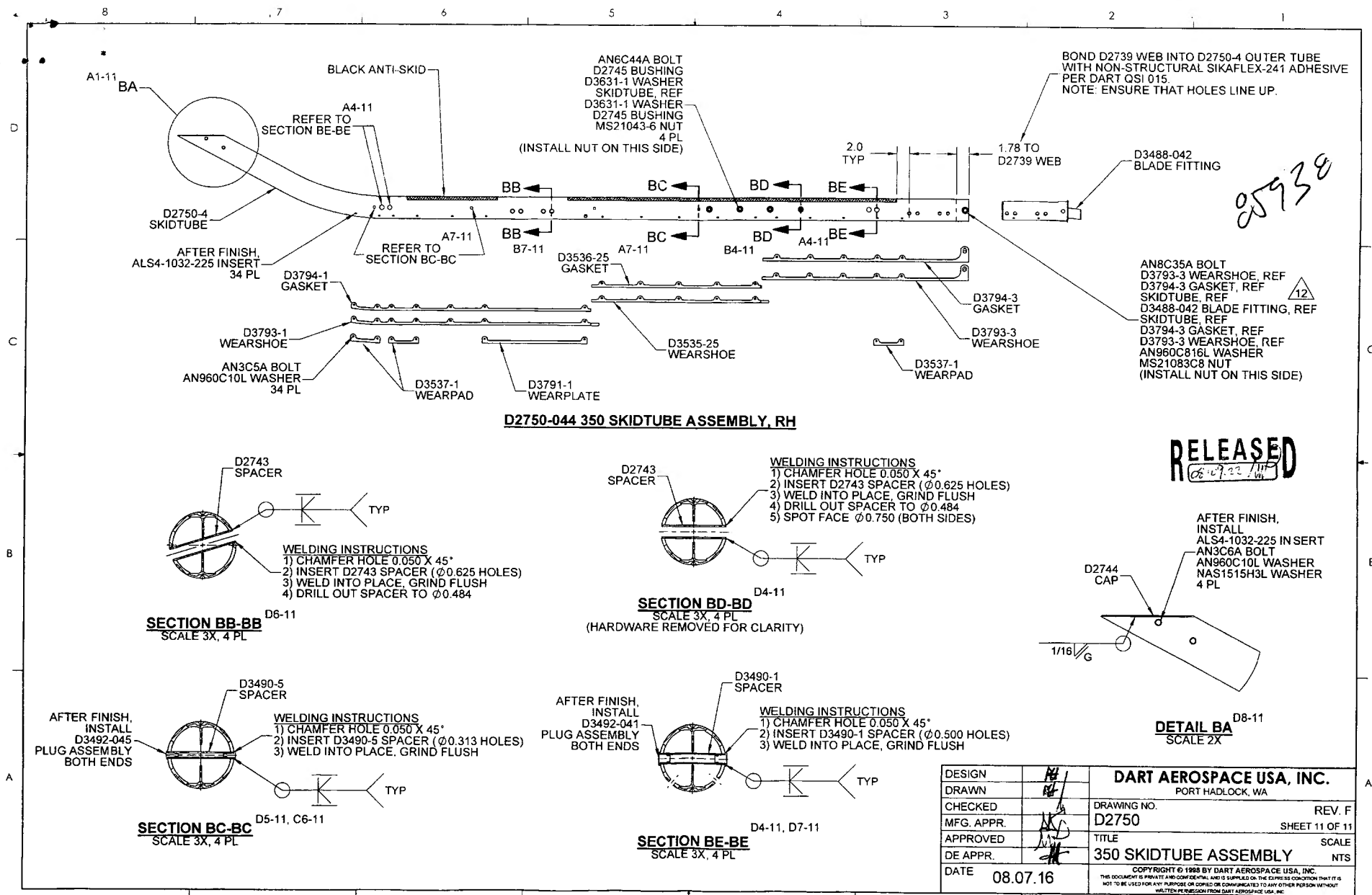
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 298

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job #: 87012
Part #: A350-636-014
Description: Skid tube
Welding Process: Tig ☒ Mig ☐
Base material: Alum. in.
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual:	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Incomplete Penetration:	pass	<input type="checkbox"/>	fail	<input type="checkbox"/>
Incomplete Fusion:	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Cracks:	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Overlap (cold lap)	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Undercut:	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Pin holes:	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Porosity (surface):	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Coloration:	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>
Burn through:	pass	<input checked="" type="checkbox"/>	fail	<input type="checkbox"/>

Qualifier David Reed Date of Test Coupon 12.07.23

Welder Barclay Elliott Date of Test Coupon 12-07-23

The above named individual is qualified in accordance with AWS D17.1.2001 to weld